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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,594	11/26/2003	Yuan-Ping Pang	07039-161002	7578
26191 7590 03/28/2007 FISH & RICHARDSON P.C. PO BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER NEGIN, RUSSELL SCOTT	
			ART UNIT 1631	PAPER NUMBER
			MAIL DATE 03/28/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Advisory Action Before the Filing of an Appeal Brief</p>	Application No. 10/723,594	Applicant(s) PANG, YUAN-PING	
	Examiner Russell S. Negin	Art Unit 1631	

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 19 March 2007 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires _____ months from the mailing date of the final rejection.
 b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

NOTICE OF APPEAL

2. ☐ The Notice of Appeal was filed on _____. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
- (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
 (b) ☐ They raise the issue of new matter (see NOTE below);
 (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: _____. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
 5. ☒ Applicant's reply has overcome the following rejection(s): 35 U.S.C. 112 Rejections have been overcome.
 6. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
 7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
 The status of the claim(s) is (or will be) as follows:
 Claim(s) allowed: _____.
 Claim(s) objected to: _____.
 Claim(s) rejected: 37-72.
 Claim(s) withdrawn from consideration: 1-18 and 25-36.

AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
 9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
 10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:
See Continuation Sheet.
 12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). _____
 13. ☐ Other: _____

Continuation of 11. does NOT place the application in condition for allowance because:

Arguments of applicant were considered but fail to place the application in condition for allowance because the prior art rejections of record have not been overcome.

Arguments of the applicant are on pages 9-14 of the Remarks of 19 March 2007.

First, on pages 10-11 of the Remarks of 19 March 2007, applicant attempts to argue the meaning of the term "dummy atom" by redefining the definition presented in the specification. The specification states on page 7, lines 29-30: "A dummy atom is defined as an atom that is assigned a van der Waals size of zero. That is a, a dummy atom is basically a point charge." Applicant states in their argument, "These are the characteristics of dummy atoms, as recited in the specification, but they are not a complete definition of 'dummy atom'. Rather by its very terms, a dummy atom is a made up atom-- a 'dummy' atom-- that is added to a model to help in simulating a real world structure that does not include such an atom." Applicant maintains, that since a dummy atom is "assigned" a certain size, it is intended for simulation. Consequently, applicant argues that while all dummy atoms are point charges, not all point charges are dummy atoms. In response to this argument, in the absence of this complete definition of "dummy atom" in the specification, applicant is attempting to imply meanings to terms in the definitions via their own interpretations of the clear definition in the specification. All charges (protons or electrons) in nature have finite radii, but are approximated (or "assigned") as zero (or point charges) to accommodate analysis not only in simulation, but additionally in many experiments and in quantum mechanical calculations. The fact that an atom is assigned a radius does not limit the type of experiment to be a simulation as opposed to a calculation or an empirical experiment.

Even assuming the undisclosed intention of the applicant in stating that dummy atoms are used exclusively for simulations, applicant is pointed to lines 18-22 of page 5836 of Marchi et al., which states: "The model potential chosen for ammonia--ammonia interactions is the same as the one described in our previous articles dealing with an excess electron in ammonia. In brief the ammonia intermolecular potential consisted of a nitrogen-nitrogen Lennard-Jones interaction, plus interactions between four point charges on each molecule." Consequently, the ammonia ligands to the alkali ions discussed in this study are series of point charges, which aids in describing the instant claim.

Second, applicants argue on page 11 of the Remarks of 19 March 2007 that the specification "plainly speaks of molecular modeling," and cites Specification, page 2, line 6 to illustrate an example showing that a dummy atom represents a vacant orbital. However, if this passage is examined closely, the specification, lines 5-7 states, "The method MAY use a positively charged dummy atom to represent a metal ion's vacant electronic orbital that accommodates the lone pair-electrons of the metal ion's coordination ligand." Consequently, this statement is a non-limiting example of the properties of dummy atoms (i.e. not limiting to this type of simulation).

Third, applicants argue against a motivation to combine the Huheey et al. reference and the Marchi et al. reference, and claim that the Office has combined such references using impermissible hindsight. In response, while Huheey et al. teaches the crystal field theory which describe the structure of the compounds in the instantly claimed application, Marchi et al. simulates analogous compounds (i.e. ions associated with dummy atoms or point charges as described in the passage cited above) to analyze alkali metal ions in ammonia solution. There is clear motivation to combine as Marchi et al. has the advantage of utilizing the crystal field theory to examine energetics of solutions of such compounds.

Fourth, applicants argue on the basis of arguments above, that the rejections using the Maggiora reference should be withdrawn. These arguments have been addressed.

Applicant next (on pages 12-13 of the Remarks of 19 March 2007), argues that the finality of rejections should be withdrawn. Applicant argues, using MPEP section 706.07(a), that prior art applied for the first time to "any claim amended to include limitations which should reasonably have been expected to be claimed" should not be made final. Additionally, applicant argues that prior art should not be held back. In response, the amendments made to the set of claims filed on 20 October 2006, while overcoming the rejections of record, significantly broadened the scope of the claim. The result was a new prior art rejection that was necessitated by the amendment (also discussed in MPEP 706.07(a)). It should also be noted that the insertion of "monatomic" was not the only amendment to the set of claims filed on 20 October 2006.

RSN
23 March 2007

RSN 3/23/07

John S. Brusca 23 March 2007

JOHN S. BRUSCA, PH.D.
PRIMARY EXAMINER